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(54) **Personal identification method and personal identification device**

(57) The invention offers a technique for personal identification which reduces the amount of computation required to match fingerprints, thereby shortening the processing time, while simultaneously improving the precision of the match. A press-type fingerprint sampler 1 reads a 1 cm² area in the central portion of a fingerprint which has been pressed flat, and supplies fingerprint information representing a two-dimensional image of the fingerprint to a fingerprint match processing device 2. At the fingerprint match processing device 2, a minutiae extracting portion 21b extracts eight types of minutiae (starting points, end points, bifurcation points, juncture points, dots, short lines, islands and scars) from the fingerprint information and writes these into the memory portion 22 to register the fingerprint. When matching the fingerprints, the fingerprints are similarly sampled by the press-type fingerprint sampler 1 to extract the minutiae, which are then supplied to a match computing portion 21c. Additionally, a control computation processing portion 21a reads the minutiae of the registered fingerprint and supplies them to a match computing portion 21c. As a result, the match computing portion 21c compares the minutiae of the sampled fingerprint and the minutiae of the registered fingerprint to determine whether or not they are the same.

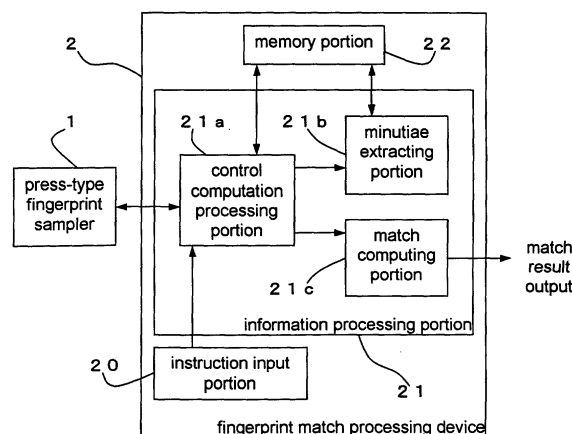


FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 01 40 3367

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
T	P. BABCOCK GOVE: "Webster's Third New International Dictionary" 1986, MERRIAM-WEBSTER, SPRINGFIELD, MASSACHUSETTS, USA, XP002383291 * page 608 *		INV. G06K9/00
T	JAIN L C ET AL: "INTELLIGENT BIOMETRIC TECHNIQUES IN FINGERPRINT AND FACE RECOGNITION, MINUTIAE DETECTION" INTELLIGENT BIOMETRIC TECHNIQUES IN FINGERPRINT AND FACE RECOGNITION, BOCA RATON, FL : CRC PRESS, US, 1999, XP002383289 ISBN: 0-8493-2055-0 * page 156 *		
X	EP 0 895 750 A (NEC CORPORATION) 10 February 1999 (1999-02-10) * claims 1,2,4,6,8 *	1-6,8	
A		7	
X	EP 0 762 340 A (CANON KABUSHIKI KAISHA; CANON U.S.A. INC) 12 March 1997 (1997-03-12) * column 1, line 1 - line 14 *	1-6,8	TECHNICAL FIELDS SEARCHED (IPC) G06K G07C G06F
X	US 6 047 282 A (WILSON ET AL) 4 April 2000 (2000-04-04) * column 1, line 22 - line 27 *	1-6,8	
X	* column 2, line 9 - line 16 *	1,3,5,8	
X		2,4,6	
9 The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 8 June 2006	Examiner Versluis, Anton
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-8



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-8

A personal identification device with feature extracting means characterised by said means extracting starting points, end points and scars as minutiae.

2. claims: 9-11

Image taking means for acquiring an image of a dermatoglyphic with a fixing means, characterised by comprising an ex-dermatoglyphic member for pulling the skin outside.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 40 3367

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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08-06-2006

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